

IN THE CLAIMS

1. (Currently Amended) A heating and air conditioning installation for a vehicle comprising:

a first fluid circuit comprising a first heat exchanger, said first heat exchanger is in fluid communication with an engine disposed upstream from the heat exchanger ~~configured and disposed to warm an air flow by transferring heat from the a vehicle engine;~~

a second fluid circuit comprising

a compressor;

a first three-way valve disposed downstream from the compressor;

a heat sink disposed downstream from the first three-way valve;

a first expansion valve disposed downstream from the heat sink;

a second heat exchanger disposed downstream from the first expansion valve; and

a second three-way valve disposed downstream from the second heat exchanger ~~a second heat exchanger, said second heat exchanger is configured and disposed to cool the air flow;~~

a third fluid circuit comprising

the compressor;

the first three-way valve disposed downstream from the compressor;

a second expansion valve disposed downstream from the first three-way valve;

a third heat exchanger disposed downstream from the second expansion valve; and ~~a third heat exchanger, said third heat exchanger is configured and disposed to warm the air flow;~~

the second three-way valve;

wherein the second fluid circuit and the third fluid circuit share the same first and second three-way valves and compressor; and

wherein the first and second three way valves are configured to direct fluid from the compressor in three modes,

a first mode wherein the compressor and three way valves are configured to circulate fluid only in the second fluid circuit and does not circulate fluid in the third fluid circuit;

a second mode wherein the compressor and three way valves are configured to circulate fluid only in the third fluid circuit and does not circulated fluid in the second fluid circuit; and

a third mode wherein the compressor and three way valves are configured to circulate fluid in both the second and third fluid circuits. ~~heat exchanger is disposed in a separate channel from the first heat exchanger and the third heat exchanger.~~

2. (Canceled)

3. (Withdrawn) A heating and air conditioning installation according to Claim 1, wherein the downstream heat exchanger(s) forms/form a structural unit with the first heat exchanger, the respective heat exchangers being thermally isolated from one another.

4. (Previously Presented) A heating and air conditioning installation according to Claim 1, wherein the second and the third fluid circuits are coupled to one another, one of said second and third fluid circuits forming a bypass to the other fluid circuits.

5. (Canceled).

6. (Withdrawn) A heating and air conditioning installation according to Claim 5, wherein at least one fluid-flow and/or state control member acts as a two- or multi-stage throttle.

7. (Withdrawn) A heating and air conditioning installation according to Claim 1, wherein an air-flow control member is connected upstream of at least one of said first, second and third heat exchangers for diverting or delivering air with respect to said at least one heat exchanger.

8. (Previously Presented) A heating and air conditioning installation according to Claim 1, wherein a phase change of the fluid takes place in at least one of said first, second and third heat exchanger.

9. (Canceled)

10. (Currently Amended) A heating and air conditioning installation comprising:
a heat exchanger associated with an engine, the heat exchanger being adapted to selectively warm an air flow;

a cooling fluid circuit comprising a cooling heat exchanger adapted to selectively cool the air flow;

an auxiliary heating fluid circuit coupled to the cooling fluid circuit, the auxiliary heating fluid circuit comprising an auxiliary heat exchanger connected in parallel to the cooling heat exchanger and being adapted to selectively warm the air flow; and

a compressor associated with the cooling and auxiliary heating fluid circuits, the compressor being disposed and configured to selectively deliver fluid to the cooling heat exchanger, the auxiliary heat exchanger, or both the cooling heat exchanger and the auxiliary heat exchanger, wherein the cooling heat exchanger is disposed in a separate channel from the heat exchanger and the auxiliary heat exchanger.

11. (Previously Presented) The heating and air conditioning installation in claim 10, further comprising:

a three-way valve situated downstream from the compressor selectively configured to direct the fluid to the cooling fluid circuit in a first mode, to direct the fluid to the auxiliary heating circuit in a second mode, and to direct the fluid to both the auxiliary heating circuit and the cooling fluid circuit simultaneously in a third mode.

12. (Previously Presented) The heating and air conditioning installation in claim 11, further comprising:

a three-way valve situated downstream from the downstream three-way valve and upstream from the compressor selectively configured to work in coordination with the downstream three-way valve to direct the fluid in the first, second, and third modes.

13. (Previously Presented) The heating and air conditioning installation in claim 1, wherein the first heat exchanger and the third heat exchanger are disposed in a heating air channel and the third heat exchanger is situated downstream from the first heat exchanger in terms of air flow.

14. (Previously Presented) The heating and air conditioning installation in claim 11, wherein the heat exchanger and the auxiliary heat exchanger are disposed in a heating air channel and the auxiliary heat exchanger is situated downstream from the heat exchanger in terms of air flow.